H.M.A.S. Bataan

By Donald Crowley. HO PO RM

P. O. R. M. Don Crowley was drafted to HMAS Bataan early 1945 immediately prior to her being commissioned, and supervised the installation and testing of the US SG surface warning, and the US SC air warning Radars. This equipment was located in the Navigator's chart room. As examples of the types of problems encountered in those early days, when it was imperative to "get the stuff in and sort out the problems later", Don recalls the following incidents he encountered in Bataan

One was an interesting phenomonen which came to light in the early stages of comparing the Rranges with those of the optical range finder in the gun director. In theory, the ranges should have been precisely the same, but they were different by a small amount. After examination of the data, it was reasoned that there was a perceptible time delay in the transit of the Radar transmitted signal from the transmitting magnetron to the antenna, and similarly of the returned signal from the antenna to the receiver. Once calculated and applied into the ranging calibration, the factor remained constant until associated components were changed. The satisfying outcome was that there were no more arguments between the gun director and Radar plot crews as to which range was correct. This phenomonen was also noticed in the early days of television when because of the different cable lengths, the time taken for the video signal to travel from the various studios and outside broadcast units to the central operations room, the telecine, was different in every case. The TV solution was simply to delay the shorter path signals to equate to that of the longest path.

Pre commissioning trials are essential to ensure that as far as possible, all predictable problems have been resolved. Not quite so in Bataan's case where Full Astern had the desired effect on ship's speed, but the undesired effect of the generated heat melting the cables running up the mast, rendering all Radar instantly inoperative. So it was back to the dockyard for installation of protective heat shield on the mast cables.

Another problem was that the SC Radar did not perform well. Investigation revealed that the coaxial cables were below specification, and upon replacement showed a receiver signal gain of about 6db, quite significant.

Yet another was the difference in ranges of SG's PPI and the "A" scan displays. The PPI's extreme range was greater than that of the "A" scan, but this anomaly was not apparent until on one occasion the "A" scan operator was almost accused of being asleep because he did not detect an echo which had been detected and reported by the PPI operator. The alternative solutions were to either decrease the PPI maximum range to be coincident with that of the "A" scan, or to accept the fact of a design limitation. The later course was adopted, and henceforth when operating on maximum range, the PPI operator invariably would see a "blip" before the "A" scan operator did so.

Footnote: Jim Somervelle recalls that in 1947/48 Bataan had 2 US Radars. One was surface warning SG1 (Sugar George), and the other was SC4 (Sugar Charlie).

Don recalls that Shropshire had a potentially disastrous installation misadventure when fitting out in UK. Type 282 Radar was installed in the port and starboard small arms batteries, the pom poms. During an early workup exercise, aircraft simulating a port side attack were detected on the starboard system. Investigations revealed that the port antenna system had been connected to the starboard Radar and vice versa.